

# Syllabus

for course at advanced level

**Applied Environmental Geochemistry**  
**Tillämpad miljögeokemi**

**7.5 Higher Education  
Credits**  
**7.5 ECTS credits**

<b>Course code:</b>	GG7020
<b>Valid from:</b>	Autumn 2019
<b>Date of approval:</b>	2019-03-11
<b>Department</b>	Department of Geological Sciences
<b>Main field:</b>	Geological Sciences
<b>Specialisation:</b>	A1N - Second cycle, has only first-cycle course/s as entry requirements

## Decision

This syllabus was approved by the Faculty of Science at Stockholm University 2019-03-13

## Prerequisites and special admittance requirements

For admission to the course, knowledge equivalent to a bachelor's degree is required, which must include at least 90 credits in geology, earth science, biology-earth science, oceanography or environmental science. English 6 or equivalent.

## Course structure

Examination code	Name	Higher Education Credits
HELA	Applied Environmental Geochemistry	7.5

## Course content

This course provides knowledge about fundamental geochemical processes in the environment and their relevance to society and nature. The course takes up anthropogenic changes in soil, water, and sediment. Teaching deals with drinking water and sewage treatment, mine waste, contaminated soils, sediment, coastal eutrophication, and geochemical changes in the greenhouse gases.

## Learning outcomes

After completing the course, the student is expected to be able to:

- Understand how natural geochemical processes influence our modern society
- Explain some of the most common geochemical problems in the environment and efforts to remediate them
- Explain the interaction between climate changes and geochemical environmental problems
- Explain and apply standard methods for sampling and analysis of common environmental parameters
- Evaluate an environmental state based on geochemical data
- Apply geochemical environmental monitoring databases for environmental analysis
- Present a small project orally and in writing

## Education

The course consists of lectures, excursions, laboratory, seminars and exercises. Participation in exercises and in any associated integrated instruction is compulsory.

In the event of special circumstances, the examiner may, after consultation with the teacher concerned, grant a student exemption from the obligation to participate in certain compulsory instruction.

The teaching language is English.

### **Forms of examination**

- a. Knowledge assessment and examination are in the form of written examinations.
- b. Grades will be set according to a seven-point scale related to the learning objectives of the course:  
A = Excellent  
B = Very good  
C = Good  
D = Satisfactory  
E = Adequate  
Fx = Fail, some additional work required  
F = Fail, much additional work required
- c. The grading criteria will be distributed at the beginning of the course.
- d. In order to pass the course, students must receive the minimum passing grade E on all course units and participate in all mandatory instruction.
- e. Students who receive a failing grade on a regular examination are allowed to retake the examination as long as the course is still provided. The number of examination opportunities is not limited. Other mandatory course elements are equated with examinations. A student who has received a passing grade on an examination may not retake the examination to attain a higher grade. A student who has failed the same examination twice is entitled to have another examiner appointed, unless there are special reasons to the contrary. Such requests should be made to the department board. The course has at least two examination sessions per academic year the year of tuition given. Intermediate years are given at least one examination.
- f. There is no facility to improve the grade Fx to a pass grade in this course.

### **Interim**

Students may request that the examination be conducted in accordance with this course plan even after it has ceased to be valid. However, this may not take place more than three times over a two year period after course instruction has ended. Requests must be made to the department board. The provision also applies in the case of revisions to the course plan.

### **Limitations**

The course may not be included in degree with Applied Environmental Geochemistry (GG5006) or equivalent.

### **Misc**

The course is part of the Master Programme in Geological Science, but can also be read as a separate course.

The course may include field trips that can entail costs for the student.

### **Required reading**

The course literature is decided by the department board and published on the Department of Geological Sciences website at least two months before the start of the course.